



May 21, 2018

Honorable Mary Nichols
California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Proposed Beneficiary Mitigation Plan

Dear Chair Nichols,

Greenlots appreciates the opportunity to provide the California Air Resources Board (CARB) with comments on the Proposed Beneficiary Mitigation Plan (BMP), and recommendations for funds disbursement.

Greenlots is a leading provider of electric vehicle (EV) charging software and services. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America, including deployments in California. Greenlots' smart charging solutions are built around an open standards-based focus on future-proofing while helping site hosts, utilities, and grid operators manage dynamic EV charging loads and respond to local and system conditions.

Greenlots strongly encourages CARB to invest the full 15% allowable for light-duty EV charging infrastructure; funding reallocation from the combustion freight/marine sector could be used to bridge this funding gap. An investment in light-duty EV charging is critical to supporting EV adoption across the State, and meeting statewide targets of 250,000 charging stations and 1.5 million zero emission vehicles by 2025 (and 5 million by 2030). We encourage CARB to focus on light-duty EV charging infrastructure, rather than hydrogen fuel cell refueling equipment. There are substantially more EV makes and models available as compared to hydrogen vehicles, and there is a much clearer immediate market pathway for EVs. The deployment of public charging stations helps facilitate the purchase and use of EVs. Maximizing investment in light-duty EV charging infrastructure complements other State initiatives, including advancing public health, economic, climate change, and environmental goals. Due to the emissions associated with light-duty vehicles, the 15% light-duty charging investment represents a critical step toward enabling long-term emissions reductions of NOx and greenhouse gases.

Greenlots appreciates Staff's approach to the inclusion of light-duty EV charging infrastructure in the BMP: namely gap-filing. However, we feel that the gap identified by Staff to support (where other programs or investments fall short) is rather larger than the \$10M suggested. We would recommend reconsideration be given to increase the light-duty infrastructure allocation in the Beneficiary Mitigation Plan. Among other gaps, there is a substantial need for near-term investments in a more robust statewide DC fast charging network, which can facilitate long-

distance travel and provide drivers with local publicly accessible infrastructure that can help ameliorate range anxiety. The chargers can help meet the needs of EV drivers who need to charge on the go, rather than where the car is parked for more than an hour or two. Level 2 charging will be an important asset for locations with long-dwell times, such as destination locations, workplaces, or to support fleet charging.

We also have considerations for CARB on how to structure EV infrastructure funds disbursement. Because of the costs associated with deploying infrastructure – which have thus far proven to be uneconomic for the private sector – CARB has an important role to play in designing an effective proposal process in which Trust funds are appropriately matched to site hosts that are prepared for long-term operation and maintenance of charging infrastructure. At this early stage of the market, ownership and operation of charging infrastructure is an appropriate and in many respects necessary role for established actors (e.g., utilities, cities) that are best positioned to steward and maintain infrastructure and arguably least (or less) sensitive to the financial pressures associated with ongoing operation of charging infrastructure.

Greenlots recommends the following proposal considerations:

- A proposal could/should be designed such that individual site hosts do not apply for the funds. Instead, a few program entities should be funded by the State to provide EV charging (either within a turnkey structure or as broader partnerships). Funding one or a few program entities (e.g., utilities, municipalities, a new CalTrans unit, etc.) can help ensure more adequate statewide coverage and that site hosts are properly vetted and considered. Turnkey services by such a program entity could include site acquisition, and the purchase, installation, operation and maintenance of EV infrastructure. Lowest cost of providing EV infrastructure should not be the only consideration of this proposal. CARB should also consider customer service, expertise in developing similar charging programs, ability to integrate with the grid, etc. As the RFP or grant process represents a considerable statewide investment in EV charging, it is vitally important that funds are allocated in a manner that creates a positive EV driver experience and encourages further development of the charging market within the State. This type of proposal can also help ensure that the investments in low-income and disadvantaged communities are designed to be beneficial, will have critical use by residents, and do not cause undue burden.
- Require that any EV infrastructure investments adhere to the latest open standards, which can help minimize the likelihood of stranded assets.
- Encourage development of DC fast charging, particularly to facilitate corridor and tourism travel, and Level 2 charging at workplaces and multi-unit dwellings.

For the remaining funds, Greenlots supports carve-outs for transportation electrification opportunities, including for zero-emission transit, school and shuttle buses and Class 4-8 trucks – and encourages reallocation of funds from the combustion freight/marine sector. While

electric buses and vehicles have higher up-front costs, they have significantly reduced fuel and maintenance costs, a longer vehicle lifespan, greater potential to reduce criteria air pollutants and greenhouse gases, and provide health benefits for workers, schoolchildren, and community members. If CARB only utilizes a short timeframe for considering NOx reductions, it is conceivable that the State could be inadvertently locking itself into an unnecessary fossil fuel paradigm that could have been mitigated through different funding allocations in the Beneficiary Mitigation Plan.

By investing in transit and school bus electrification, California is providing direct benefits to populations that may not directly benefit from light-duty EVs or EV charging; bus charging provides both direct and indirect public health and social welfare benefits for transportation users and many surrounding communities—many of which tend to bear a disproportionate share of pollution (e.g., NOx, SOx, PM). Furthermore, electrification of transit and school buses is a natural fit to provide benefits in disadvantaged and environmental justice communities, which often bear the highest burden of emissions exposure.

A transformative strategy in the Beneficiary Mitigation Plan can lead to long-term emissions reductions – but this objective can only be achieved with wide-scale transportation electrification. This is an opportunity for CARB to set in motion long-term air quality benefits, above and beyond simply mitigating the excess NOx from the affected Volkswagen vehicles, and plan for California's future transportation system. While Greenlots is focused on transportation electrification in the context of vehicles that are fueled with electricity rather than hydrogen, we respect the State's commitment to supporting hydrogen fuel cell vehicles, recognizing that in many respects they can offer similar air quality and public health outcomes as vehicles fueled with electricity. We are cognizant however that investments in transportation electrification can have greater impact than hydrogen fuel cell vehicles and infrastructure due to their lower cost.

Thank you for your consideration. Greenlots will be available as a resource to CARB through the finalization and implementation of the Beneficiary Mitigation Plan. Please do not hesitate to contact me should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas Ashley', with a stylized, fluid script.

Thomas Ashley
Vice President, Policy